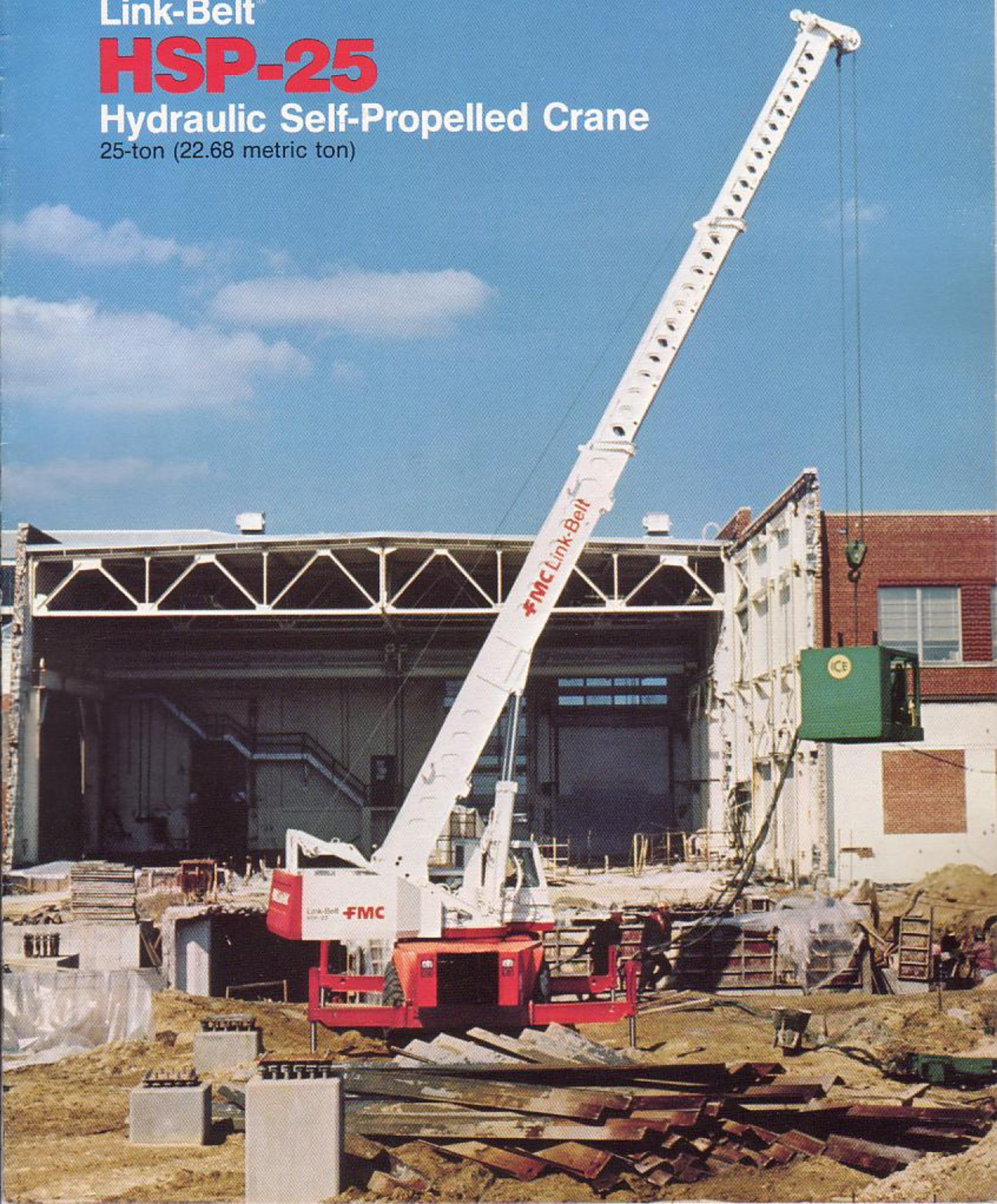


Link-Belt[®]

HSP-25

Hydraulic Self-Propelled Crane

25-ton (22.68 metric ton)

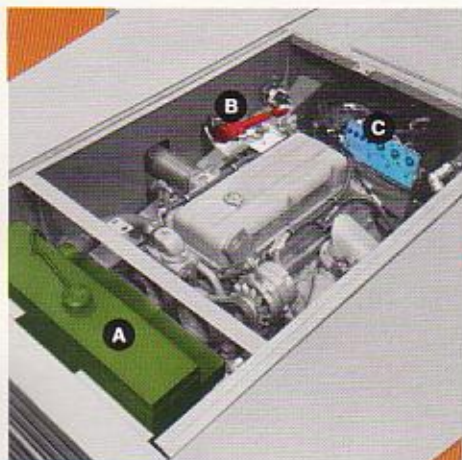


FMC's new hydraulic self-propelled crane with flat deck carrier design

Results in greater travel and operating stability

FMC now offers an additional model to the mid-size hydraulic self-propelled crane class, the HSP-25, a 25-ton (22.68 metric ton) machine. The FMC designed and manufactured carrier features a flat deck design. Major components are mounted low in the frame, resulting in a lower center of gravity for greater travel and swing stability and increased on-tire lifting capacity in the operating ranges. The practical design of the flat deck carrier also permits operator cab access throughout the 360° swing of the crane upper.

Removal of the engine panels on the flat deck reveals a low mounted **engine**



Engine assembly

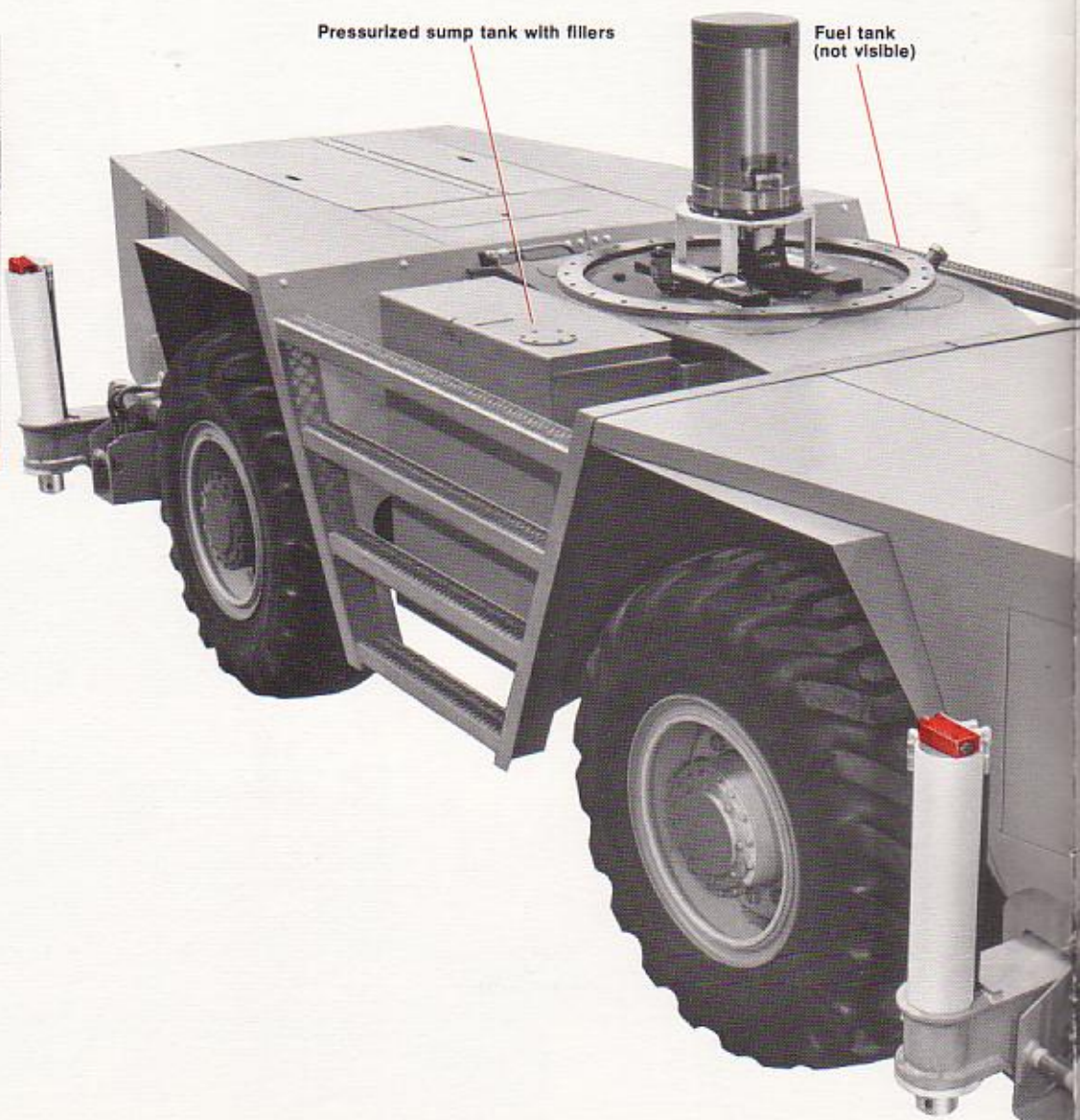
assembly which includes an oil cooler (A) as standard. The air cylinder (B) regulates the throttle of the engine. In addition to providing a smooth acceleration and deceleration of the

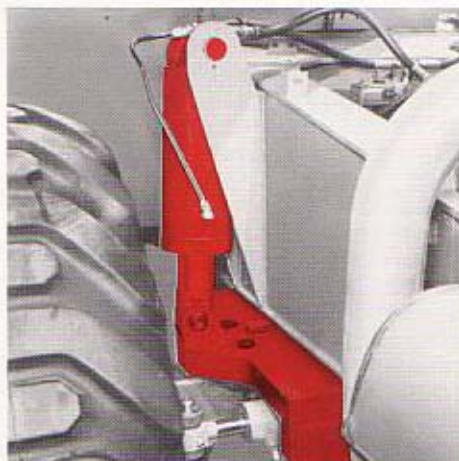
engine, the control provides a high idle engine speed for initial engine start-up and can be set to remain at any engine RPM level during machine operation. A centralized circuit-breaker panel (C) provides for an instant status check of the major electrical systems in the carrier. Push-button breakers allow for easy reset of all the circuits, eliminating time consuming fuse replacement. An engine mounted air compressor provides power for brakes, throttle, transmission shift, and disconnects for the main pumps and the rear axle drive.

Engine radiator and transmission are rubber shock-mounted to the frame.

The HSP-25 carrier not only provides for a lifting base, but also for optimum maneuverability in congested areas. The carrier is equipped with an automatic shift transmission controlled by a single lever. An air cylinder shifts the transmission from reverse to the forward speeds.

For added safety and minimum effort, 2-wheel, 4-wheel and crab-style steering





Rear axle oscillation

are all coordinated with the steering wheel. A steering mode selection switch, plus a visual rear wheel position indicator, are all conveniently located for the operator in the control console.

The HSP-25 **rear axle oscillates** when travelling over uneven ground to

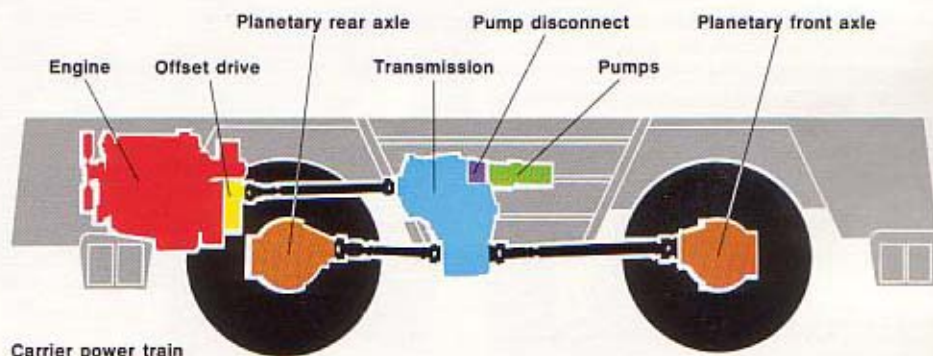
maintain tire traction. For a more rigid lifting base, when swinging beyond 15° either side of center, the rear axle is automatically locked in position by two large hydraulic cylinders. An operator controlled lock-out override allows for oscillation adjustment, if necessary.

The low, in-line, **carrier power train** concept of the HSP-25 is a simple efficient design. A unique offset drive system enables the engine to be mounted low in the frame while still maintaining a direct in-line drive to the transmission. The transmission powers the front axle for 2-wheel drive operation, and by activating a control console mounted switch, an air actuated clutch permits power to be supplied to

the standard driving rear axle for 4-wheel drive operation.

The front and rear planetary drive axles are each equipped with a high traction differential. They allow one wheel to assume up to 60% of the available axle torque for traction on uneven ground.

The crane upper is mounted to the carrier by a turntable bearing with integral swing gear.



Carrier power train



Jack cylinder check valve (p-7)

Exclusive boom design embossed with diamond-shaped depressions

Custom machine tools assure precision and dependability

The 3-section power boom design is an exclusive FMC engineering achievement. With the aid of the Applied Mechanics Laboratory and extensive testing, the **boom design (patented)** was developed to consist of minimum gauge side plates along with 100,000 p.s.i. (689 500 kPa) yield strength steel angles in the four corners resulting in a more durable boom.

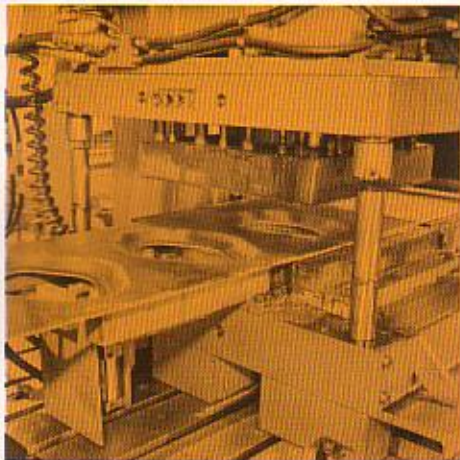
To maintain the tolerances and precision established by engineering, FMC made a considerable investment in custom designed machine tools and an all new facility for manufacturing the boom.

The side plates are embossed with a 1200-ton (1 088 metric ton) **hydraulically operated press**. The embossing of the minimum gauge boom side plates increases the strength and stiffness while keeping the weight at a minimum. The **diamond shaped depressions** were adapted to the design to allow for the natural flow of boom stresses (both

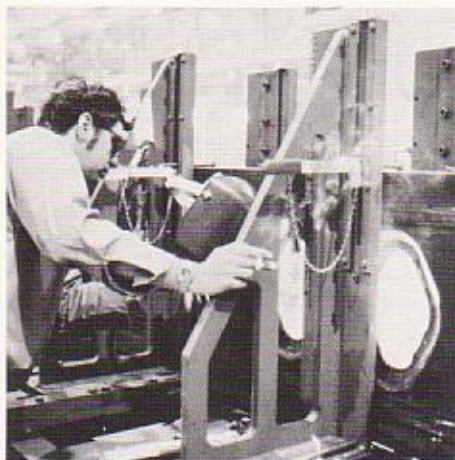


compressions and tensions) and avoid high stress risers when a load is lifted.

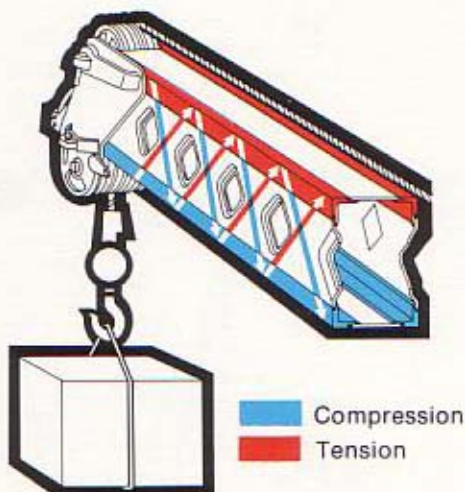
To eliminate undesirable welds in the corners of the boom, the side plates are precisely welded by **automatic welding machines** to specially machined **corner angles**. The angles promote greater boom rigidity while



Hydraulically operated press



Automatic welding machine



FMC's exclusive boom design (patented)

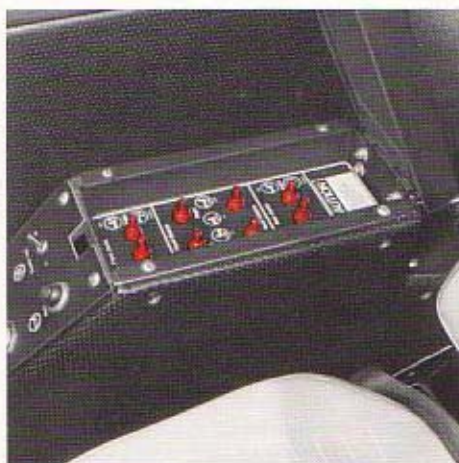
increasing the overall reliability. The corner angles are able to absorb and efficiently transmit the boom stresses which occur when lifting a load.

To maintain proper alignment of the power boom sections, the FMC boom design incorporates the use of **wear shoes** which are positioned on the top, bottom and sides of each power

section. All of the shoes are readily accessible for serviceability. The rear wear shoes are lubricated through external fittings located at the head of each section. It is not necessary to dismantle the boom for wear shoe replacement.

The total power boom length is 28' 6" - 70' (8.69 - 21.34 m). Also available is a 25' (7.62 m) swing around lattice fly or with an additional 20' (6.10 m) lattice section, a 45' (13.72 m) jib.

Hydraulic out-and-down outriggers are standard. Beams are full width with individual controls for extending the beams and lowering the jacks. **Outrigger controls** are conveniently located under the right arm-rest in the operator's cab. Once the outriggers are set, an automatic check valve attached directly to the jack cylinder "locks" oil in the cylinder to secure the jack in place. The two-position **floats** are pinned to the jacks.



Outrigger controls



Float in stored position